

## ABSTRACT

The present invention relates to variants of a parent  $\alpha$ -amylase, which parent  $\alpha$ -amylase (i) has an amino acid sequence selected from the amino acid sequences shown in SEQ ID No. 1, SEQ ID No. 2, SEQ ID No. 3, and SEQ ID No. 7, respectively; or (ii) displays at least 80% homology with one or more of these amino acid sequences; and/or displays immunological cross-reactivity with an antibody raised against an  $\alpha$ -amylase having one of these amino acid sequences; and/or is encoded by a DNA sequence which hybridizes with the same probe as a DNA sequence encoding an  $\alpha$ -amylase having one of these amino acid sequences; in which variant:

- (a) at least one amino acid residue of the parent  $\alpha$ -amylase has been deleted; and/or
- (b) at least one amino acid residue of the parent  $\alpha$ -amylase has been replaced by a different amino acid residue; and/or
- (c) at least one amino acid residue has been inserted relative to the parent  $\alpha$ -amylase; the variant having  $\alpha$ -amylase activity and exhibiting at least one of the following properties relative to the parent  $\alpha$ -amylase: increased thermostability; increased stability towards oxidation; and reduced  $\text{Ca}^{2+}$  dependency;

with the proviso that the amino acid sequence of the variant is not identical to any of the amino acid sequences shown in SEQ ID No. 1, SEQ ID No. 2, SEQ ID No. 3 and SEQ ID No. 7, respectively.

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